

NAVAL FORCES UNDER THE SEA: PAST, PRESENT AND FUTURE

By

Lew Nuckols & Tom Hawkins

The Russian Navy's sad loss of the submarine Kursk in August 2000 touched submariners, divers, and salvage experts everywhere. It reminds us of the dangers of underwater work, and of the importance of understanding the history of undersea rescue

For the United States that history began on May 23, 1939 when the engine compartment of the USS Squalus flooded through the main air induction valve during one of its pre-commissioning test dives plunging the submarine and its crew to the sea floor 243 feet beneath the surface. This event initiated a rescue and salvage operation by the U.S. Navy diving fleet that captured the hearts and souls of the country. Only through the courageous efforts of a team of well-trained divers and the foresight of a few individuals were the surviving crew and their boat brought back from the depths to serve again.

Peter Maas' recent bestseller The Terrible Hours (HarperCollins Publishing, 1999) and Carl LaVo's Back from the Deep (Naval Institute Press) have documented this heroic and successful U.S. Navy rescue of the 33 surviving crewmembers on the USS Squalus. These books have not only sparked the interest of those involved in submarine rescue but the interest of the public in general. While these authors have been able to draw the attention of a worldwide audience to a very dramatic event in Naval history, that event in no way represents the sole contribution of the U.S. Navy in underwater science and technology. In addition to the raising of the Squalus and the rescue of her crew, other Navy programs like the human experiments conducted by Captain George Bond during the 1950's and 1960's with the SEALAB Program changed the way deep salvage and commercial offshore oil exploration and production operations are conducted today. As a submarine medical officer, Captain Bond personally set depth records for free escape from submerged submarines.

Also noteworthy are the U.S. Navy's efforts in the late 50's and early 60's in deep ocean exploration with the bathyscaph Trieste through funding by the Office of Naval Research. In January 1960, U.S. Navy Lieutenant Don Walsh and Swiss scientist Jacques Piccard became the only two people to ever travel to the deepest ocean depth of 37,000 feet in the Marinas Trench, setting off a new era in ocean exploration. Unfortunately, this historic journey, in many respects equal to man's landing on the moon nearly a decade later, is little known today by the general population.

The list of Navy contributions continues, from the advancements in underwater search and rescue technologies following the sinking of the Thresher in 1963 to the developments in deep saturation diving.

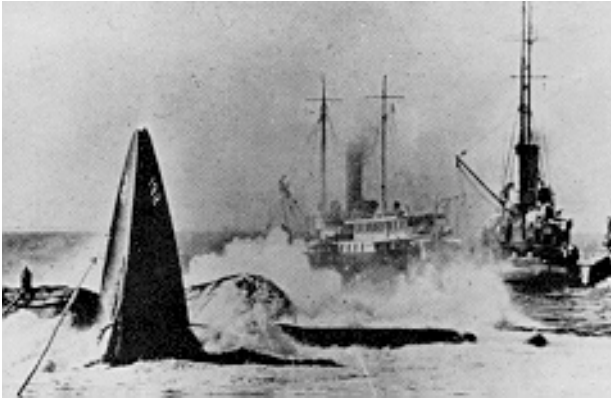
A symposium, co-sponsored by the Office of Naval Research and the U.S. Naval Academy will be held in Annapolis, Maryland during March 27-29, 2001 to address and highlight the U.S. Navy's significant developments in science and technology related to diving and submarine rescue, and look at the Navy's plans for the future. A primary objective of this symposium, open to the general public, is to capture and preserve the historical base

of knowledge in this discipline that in many cases resides only in the minds of the primary contributors in this area.

It is very fitting that this symposium be held at the Naval Academy since many of the key players and events related to this chapter in Naval history have direct ties to this institution. For instance, early training was held at the Academy during WWII for a special group of OSS (Office of Strategic Service, pre-CIA) divers who went on to become the Nation's first combat swimmers, and whose legacy resides today in the Naval Special Warfare (SEAL Team) community. One of the invited speakers for this symposium, Dr. Chris Lambertson, was a key player in developing equipment and procedures for this early training, including submarine lockout procedures by UDT (Underwater Demolition Team) combat swimmers in the post-war period. Dr. Lambertson personally made the first lockout and entry from a submerged submarine using his own experimental breathing apparatus, the Lambertsen Amphibious Respiratory Unit (LARU).

The 3-day symposium will address one of three primary topics each day in historical order of occurrence: including submarine rescue, special warfare, and saturation diving. The primary activity for each day will be a series of presentations and panel discussions on the topic of the day. Operational, technical and medical communities will all participate in these proceedings since none could exist in these interdisciplinary topic areas without the other two. Secondary activities will include live demonstrations, oral histories and group interviews for the other two topics, as well as displays (poster sessions) of small equipment (closed-circuit breathing apparatuses, Davis Lung, etc) and photographs of big equipment (Sealabs I, II & III, Trieste, McCann Rescue Chamber, DSRV's, etc). This will allow attendees to participate in all three primary sessions or focus on an individual discipline during the two secondary days. For further information about the symposium activities check out the website <http://www.usna.edu/NAOE/symposium> or contact either Dr. Lew Nuckols at the Naval Academy (nuckols@usna.edu) or CDR Mark Pierson, USN at the Office of Naval Research (mark_piereson@onr.navy.mil).

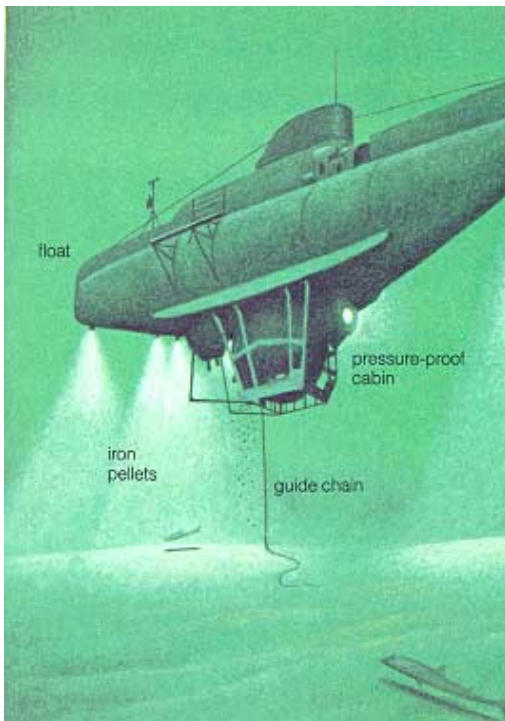
“The authors serve as two of the primary organizers of the history symposium described in the article. Dr. Nuckols is Professor of Ocean Engineering at the U.S. Naval Academy and a widely recognized expert throughout the Navy diving community. Tom Hawkins is President of the UDT-SEAL Association and currently works in the defense contracting industry.”



(Figure 1) The bow of the USS Squalus as it emerged from the sea floor during salvage operations in 1939. (Courtesy of U.S. Navy)



(Figure 2) The U.S. Navy SEALAB experiments during the 1960's revolutionized the way deep diving operations are conducted. (Courtesy of U.S. Navy)



(Figure 3) The deep bathyscaph Trieste reached the deepest known ocean's depth in January 1960; an event yet to be repeated to this date.



(Figure 4) The Lambertsen Amphibious Respiratory Unit (LARU) was used for early combat swimmer operations during World War II.

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